Successfully Implementing Knowledge Management

CONSORTIUM LEARNING FORUM

BEST-PRACTICE REPORT
Project Personnel

Project Team
Kimberly Lopez
Farida Hasanali
American Productivity & Quality Center

Subject Matter Experts
Carla O’Dell, Ph.D., President
Cindy Hubert, Senior Knowledge Management Consultant
Peggy Odem, Senior Knowledge Management Consultant
American Productivity & Quality Center

Special Adviser
Cynthia Raybourn

Contributing Authors
Farida Hasanali, Cindy Hubert, Kimberly Lopez,
Carla O’Dell, Peggy Odem, Cynthia Raybourn

Editor
Craig Henderson

Designers
Connie Choate, Victoria Wirz, Fred Bobovnyk

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STATEMENT OF PURPOSE
The purpose of publishing this report is to provide a reference point for and insight into the processes and practices associated with certain issues. It should be used as an educational learning tool and is not a “recipe” or step-by-step procedure to be copied or duplicated in any way. This report may not represent current organizational processes, policies, or practices because changes may have occurred since the completion of the study.
Contents of Study Report

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A listing of the sponsor organizations in this study, as well as the best-practice ("partner") organizations that were benchmarked for their innovation and advancement in knowledge management.

6 Executive Summary
A bird’s-eye view of the study, presenting the key findings discovered and the methodology used throughout the course of the study. The findings are explored in detail in following sections.

17 Study Findings
An in-depth look at the findings of this study. The findings are supported by quantitative data and qualitative examples of practices employed by the partner organizations.

105 Best-Practice Organization Case Studies
Background information on the partner organizations, as well as details about their innovative knowledge management practices.
Sponsor Organizations

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BHP
Boehringer Ingelheim
Chase Manhattan Bank
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Deere & Company
Detroit Diesel Corporation
Dow Corning Inc.
Eastman Chemical Company
Equilon Pipeline Company LLC
Georgia Power Company
GlaxoWellcome
Hewlett-Packard
IBM Global Services
I.R.S.
Kraft Foods
Lockheed Martin
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Mitre Organization

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National Security Agency
Naval Undersea Warfare Division
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Xerox Corporation
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Chevron Corporation
*Gateway Computers
Hewlett-Packard Consulting
*IBM Global Services
*Nortel Networks
*Raytheon
Siemens AG
The World Bank
Xerox Corporation

*Represented in quantitative data only
Executive Summary

This Best-Practice Report is based on a knowledge management (KM) consortium benchmarking study conducted by the International Benchmarking Clearinghouse, a service of the American Productivity & Quality Center (APQC). Previous consortium studies include:

- Creating a Knowledge-Sharing Culture,
- Expanding Knowledge Management Externally: Putting Your Knowledge to Work for Customers,
- Knowledge Management and the Learning Organisation: A European Perspective,
- Managing Competitive Intelligence Knowledge in a Global Economy: Emerging Best Practices in Knowledge Management, and
- Using Information Technology to Support Knowledge Management.

Building on its successful predecessors, this study focuses on how some of the most advanced early KM adopters implement a knowledge management initiative, mobilize resources, create a business case, and measure and evolve their KM programs. The goal of this report is to enable organizations to compare their own knowledge management initiatives with others and identify any performance gaps or opportunities for improvement. This Best-Practice Report also affords them the opportunity to gain a better understanding of issues faced and challenges overcome in implementing a successful knowledge management initiative.

Forty-nine companies participated in this consortium by attending a series of planning sessions, completing data-gathering surveys, and/or attending or hosting on-site interviews. Of those 49 companies, 39 sponsored the study (“sponsor companies”). Ten companies, including two of the sponsor companies, were identified as having strong knowledge management initiatives in place and were invited to participate in the study as benchmarking partners (“partner companies”).

Since APQC’s research and benchmarking activities began five years ago, some of the “early adopters” of KM, including the best-practice organizations for this study, have been able to address many of the issues that arise with any “new way of doing business.” Their experiences address the typical business questions that any senior executive would ask about a new initiative, such as “why should we do this (i.e., What is the business case?), who is going to be responsible (i.e., What roles and resources are necessary?), and how will we know if it makes a difference (i.e., How do you mea-
sure the results?).” We’ve turned to the early adopters and best-practice organizations to understand the critical success factors, options, and steps needed to implement a successful knowledge management initiative.

**STUDY FOCUS**

Drawing input from subject matter expert (SME) Dr. Carla O’Dell and APQC research, the APQC study team identified four key focus areas. These areas guided the design of the data collection instruments and were the basis on which the stages of successful implementation have been developed. A brief description of the four areas is provided below.

1. **Creating a KM Business Case**
   - Building the business case for KM
   - Justifying and gaining management support for the KM budget
   - Developing a value proposition for KM that’s tied to the business strategy

2. **Structuring a KM Strategy**
   - Aligning KM with business strategy
   - Leadership and support needed to sustain a KM strategy

3. **Implementing Your KM Initiative**
   - The advantages of a top-down or a bottom-up approach to KM
   - Technologies to support KM
   - Leveraging intranets to share and capture knowledge internally
   - The roles organizations are creating to support KM strategies
   - Determining staff size and how much time and resources to spend on KM
   - The role of KM training

4. **Measuring and Evolving the KM Efforts**
   - Soliciting feedback regarding KM products
   - Evaluating the effectiveness of KM programs
   - Understanding how and why KM programs evolve
   - Developing global KM capabilities

**REPORT OVERVIEW**

There is widespread understanding of the value of knowledge management in many organizations. One might think that mature knowledge management initiatives are widespread as well. In fact, the gap between organizations recognizing the value of knowledge management and those fully implementing it is large. As evidence, at the inception of this consortium study, more than 80 percent of the organizations in the sponsor group indicated that they have no formal plan or are just beginning knowledge management.

Is our sponsor group behind the times? Hardly. They represent many forward-looking organizations exploring and piloting KM. Only our knowledge manage-
ment early adopters are far along the implementation journey. This study’s focus is to understand how the knowledge management initiatives in best-practice companies started and evolved, not to get a snapshot of where they are now. By understanding the process, and stages, practitioners will be better equipped to manage knowledge in their own organizations.

APQC has created a model that captures the stages of successfully implementing knowledge management. This emergent model, illustrated in later sections, was developed using data from all of the best-practice companies, as well as APQC’s experiences with many of the early adopters of KM.

As described in the model overview chapter, the model provides us a framework to discuss the typical stages and characteristics; the model is not rigid, but fluid. Knowledge management implementation stages can serve as a road map to enable the reader to understand where his/her organization is in the KM journey, to see how others have successfully faced the same challenges, and to know what might be done to move on. Understanding the issues and knowing the tools and tactics of others can help at any stage. Learning from others is the opportunity to make new mistakes, not repeat those of others.

The following provides a brief overview of some of the key features of successful implementation discovered during this study.

**Business Cases and Budgets**

In every successful large-scale KM initiative we have examined, including those in this study, an important senior champion or group saw the strategic value of knowledge management and endorsed what became a significant investment in it. These champions initially made a calculated leap of faith based on a compelling business rationale or vision, not purely a return on investment (ROI) calculation. This does not mean that measures and ROI aren’t important; they are. But alone, they are not enough to cause KM to be institutionalized as a way of working.

We questioned our study participants about KM start-up and implementation costs. Fifty-six percent of partner companies spent more than a million dollars on start-up costs, as opposed to sponsor organizations, the majority of which spent less than $100,000. Annual maintenance requires at least the same level of investment. Both sponsors and partners are of the opinion that their KM budgets will increase in the future.

**Communities of Practice**

Communities of practice (CoPs) have emerged as an effective way of creating, sharing, validating, and transferring tacit knowledge. Partner organizations have made a conscious effort to elevate communities from an informal way of working to a formal way. In doing so they have demonstrated that using communities creates an institutional KM approach and allows a large measure of “localized” (by geography, topic, or discipline) KM focus.

Variously called communities of interest, communities of practice, learning communities, thematic groups, or knowledge networks, CoPs are being used by all of this
study’s best-practice partners. This study identified two models for CoPs, informal or formal, and the elements that must be in place to develop and evolve communities:

- sponsorship,
- membership,
- roles and responsibilities,
- accountability and measurement, and
- supporting tools.

Also discussed in this report are the common challenges and change management issues faced when integrating communities into an organization. Celebrating heroes, incorporating KM behaviors in performance expectations and appraisal, and elevating knowledge experts and thought leaders to be leaders of CoPs are some of the ways partners have addressed the challenges and change management issues associated with this new way of knowledge working.

**Culture**

Both partners and sponsors identified significant cultural barriers that must be overcome to create a knowledge-sharing organization. This journey is rarely without potholes. Partners, however, are more likely to have successfully addressed cultural issues, as they have moved farther along the continuum of development stages.

For example, sponsors report functional silos to be the most significant cultural barrier, while partners do not consider it a major barrier at all. It is not that partner organizations have not experienced silo mentality, rather it is that they have identified means to overcome the obstacle.

This study identifies several notable cultural barriers and how partner organizations have addressed them (Figure 1).

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**FIGURE 1: Partner Approaches to Cultural Barriers**

<table>
<thead>
<tr>
<th>Cultural Barrier</th>
<th>Success Factors</th>
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<tbody>
<tr>
<td>Functional Silos</td>
<td>Solicit senior leadership vision and active support.</td>
</tr>
<tr>
<td>Headquarters vs. the Field</td>
<td>Involve users during design and implementation.</td>
</tr>
<tr>
<td>Language and Cultural Differences</td>
<td>Accommodate learning and sharing styles as well as provide translation tools.</td>
</tr>
<tr>
<td>“Fuzzy Concept” or “Bells and Whistles” Computer System</td>
<td>Develop operational KM definitions tied to business needs.</td>
</tr>
<tr>
<td>Perception of KM as a “Bells and Whistles” Computer System</td>
<td>Concentrate on knowledge-sharing needs and behaviors; IT is an enabler.</td>
</tr>
<tr>
<td>Lack of Participation</td>
<td>Find and capitalize on passion, provide appropriate training, and use multiple channels for communication and promotion.</td>
</tr>
</tbody>
</table>
Information Technology Impact

KM has benefited enormously from the huge investments in information technology (IT) in recent years. In the late 1990s, IT investment in the United States was increasing at a blistering rate of 15 percent per year, with actual capacity increasing twice as fast because of the dramatic decline in prices.

With the IT investment has come a blossoming of KM tools that address some of the most nagging problems plaguing KM implementation in the past. Once Bill Gates and Microsoft threw their weight behind KM (Business @ the Speed of Thought, 1999), KM entered the IT mainstream. Through our research, we found the following developments in best-practice partner organizations:

1. IT for knowledge management has become affordable for most organizations.
2. “Smarter” search engines have enabled information to be organized from a socio-cultural and user perspective rather than codified according to a library system.
3. The rise of the knowledge portal has contributed to the “branding” of knowledge management in organizations.
4. IT tools for KM are actually more complicated than they appear, and they do require significant energy to implement and sustain.
5. IT is helping to build knowledge management into work processes—from project management to product development to selling.
6. The importance of making connections—of people to people and of people to information—is the driver to use IT in KM initiatives.

Information and knowledge form a virtuous circle. We define knowledge as “information in use.” Knowledge can’t exist without information. With good information, people can make better decisions and take intelligent action.

Measurement

We analyzed the KM measurement practices of our best-practice partners. Based on surveys and site visits, we identified measurement approaches, specific measures in use, and how measures impact and are impacted by the evolution of knowledge management. Measuring KM is tough. It is analogous to measuring the contribution of marketing, employee development, or any other management or organization competency.

In the earliest stages, formal measurement is rarely required or used. As KM becomes more structured and widespread, the need for measurement steadily increases. As KM becomes institutionalized—a way of doing business—the importance of KM-specific measures diminishes, and the need to measure the effectiveness of knowledge-intensive business processes replaces them. Examples of these processes are developing new products, creating integrated software solutions, and selling complex products. Eventually organizational performance measures should reflect the value of KM to whatever is being measured, without necessarily being able to ferret out the KM contribution.
The APQC study team identified the following key points regarding measurement:

- no single measurement system is a magic bullet,
- the role of measures and their design varies by stage of development,
- meaningful measures are reflective of the goals and objectives of KM,
- maturity assessments are useful to articulate the desired state and assess progress,
- ROI primarily is still captured indirectly and by extrapolation,
- stories are powerful indicators of success and promotional tools, and
- measurement systems and individual measures serve to focus attention and drive desired knowledge-sharing behavior.

**METHODOLOGY**

The APQC consortium benchmarking methodology that guided this knowledge management study was developed in 1993 and serves as one of the premier methods for successful benchmarking in the world. It was recognized by the European Center for Total Quality Management in 1995 as first among 10 leading benchmarking organizations’ models. It is an extremely powerful tool for identifying best and innovative practices and for facilitating the actual transfer of these practices.

Secondary research conducted by APQC was used to help identify innovative companies to participate in this study as best-practice partners. In addition to this research, APQC staff members and the subject matter experts identified potential participants based on their firsthand experiences and research.

The data collection tools used to gather information are:

- Screening Questionnaire: qualitative questions designed to identify best practices;
- Detailed Questionnaire: quantitative questions designed to collect objective and quantitative data, and
- Site Visit Discussion Guide: qualitative questions designed to collect qualitative information about targeted aspects of knowledge management practices.

Five of the 10 partner companies hosted half-day or full-day site visits, allowing sponsors to meet with key personnel and share their knowledge management strategies and practices. A group of consortium members attended each site visit to participate in the discussion and to experience various programs firsthand.

All partner companies responded to the Screening Questionnaire, and partners and sponsors responded to the Detailed Questionnaire. The total number of respondents to the quantitative portion of the study is 26 sponsors and 10 partners. Only five partner companies were asked to respond to the Site Visit Discussion Guide during the on-site interviews.
SUBJECT MATTER EXPERTISE

Carla O’Dell, Ph.D.

Dr. Carla O’Dell is president of APQC and serves as director of its International Benchmarking Clearinghouse. Her work in knowledge management dates back to 1995 when APQC and Arthur Andersen conducted the nation’s largest symposium on KM with more than 500 attendees. Based on issues raised at the symposium, APQC launched, under Dr. O’Dell’s direction, its first consortium study, Emerging Best Practices in Knowledge Management, with 39 organizations. She also led APQC’s second study, Using Information Technology to Support Knowledge Management, with 25 of the world’s leading KM organizations.

Dr. O’Dell is co-author with Dr. C. Jackson Grayson of American Business: A Two-Minute Warning, which Tom Peters said “gets my vote as the best business book in 1988.” Also with Dr. Grayson, Dr. O’Dell co-authored If Only We Knew What We Know: The Transfer of Internal Knowledge and Best Practice, published in the fall of 1998 by Simon & Schuster. She also leads APQC’s third study, Measuring KM: A Guide for Executives, which will be published in the fall of 1999. Dr. O’Dell holds a bachelor’s degree from Stanford University, a master’s degree from the University of Oregon, and a Ph.D. in industrial and organizational psychology from the University of Houston.

Cindy Hubert

A senior consultant in knowledge management and a senior leader of the American Productivity & Quality Center’s KM team, Cindy Hubert focuses on business process improvement—knowledge management, transfer of best practices, quality, benchmarking, measurement, and strategic planning. Hubert is responsible for delivery of APQC’s KM education and training courses, facilitation of knowledge management assessments, project management, course design, internal and external benchmarking studies, and instructor training.

Since joining APQC, Hubert has worked with a variety of industries including oil and gas, manufacturing, healthcare, financial, retail, nonprofit, and consumer products. Through her work with Dr. Carla O’Dell, president of APQC, the Center has become a national leader in conducting and producing knowledge management studies, workshops, and publications. She has spoken on knowledge management issues and practices at numerous conferences and conducted a variety of workshops.

Prior to joining APQC, Hubert spent 15 years in the oil and gas industry and in the retail industry as a controller and general manager. During that period she promoted quality and continuous improvement and served as a consultant to a number of total quality, benchmarking, and re-engineering projects.

Hubert, who holds a bachelor’s degree in marketing from the University of Texas at Austin, has extensive experience in accounting and finance. She is a founding member and past president of the Sterling Group, a professional women’s organization. She also has served as an instructor of Knowledge Management and the Transfer of Best Practices at Rice University’s Executive Education Graduate School of Management.
Peggy Odem

An associate director and consultant for the American Productivity & Quality Center, Peggy Odem offers clients more than 20 years of consulting experience, focusing on performance improvement, benchmarking, measurement, and quality for clients in a variety of industries. Over the past three years, she has worked exclusively in the area of knowledge management, conducting consortium research studies, performing knowledge management assessments, and developing educational offerings for APQC.

Odem was project manager for the first three APQC knowledge management consortium studies and worked with many business leaders in knowledge management. She has presented at knowledge management conferences, both in the United States and Europe, and has published and contributed to several articles. She has provided a wide range of services in performance measurement, the strategic use of information and enabling technologies, and leadership effectiveness. She recently joined APQC’s Education Initiative to lead its benchmarking and performance improvement services.

Prior to joining APQC, Odem worked for an international management consulting firm, where she was responsible for planning, developing, managing, and delivering consulting services. Odem also has held several leadership positions in healthcare, most recently as a director in a large urban, for-profit hospital. In that role she was responsible for patient care operations, quality and process improvement activities, and the design and implementation of an integrated outcomes management program.

Odem received her master’s degree in health services administration from the University of Houston and her bachelor’s degree from Nicholls State University in Thibodaux, Louisiana.

Cynthia Raybourn

An experienced consultant and trainer focusing on quality, benchmarking, measurement, and human resource initiatives, Cynthia Raybourn has nearly 20 years’ experience working with manufacturing, service, government, and academic organizations.

Raybourn joined the American Productivity & Quality Center 18 years ago and has held several positions including director of education and training. She was a member of the team that planned and launched the International Benchmarking Clearinghouse, was involved in the creation of the Best Practices Database™, and has been involved in numerous benchmarking studies. Raybourn also contributed to APQC’s first action research project in white collar productivity, the White House Conference on Productivity, and the development of the Texas Quality Award. In addition, she has written numerous articles for APQC publications.

Raybourn has a background in corporate communication and gained extensive experience in marketing and public relations prior to joining APQC. She received her
degree in speech communication from Pan American University and was a teaching fellow at the University of Houston while pursuing a master’s degree in communication.

COMPANY AND INDUSTRY REPRESENTATION

Of the 49 companies that participated in the Successfully Implementing Knowledge Management consortium benchmarking study, one company is based in Germany, one is based in South America, and one is based in Australia. The remaining 46 companies are based in the United States.

Participating companies represent many industries: insurance/financial, manufacturing, chemicals/petroleum, healthcare/pharmaceuticals, telecommunications, utilities, professional services, technology, and express delivery services.
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